DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit No.: AQ0923MSS01, Revision 1 Date: **Final – March 30, 2007**

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit No. AQ0923MSS01, Revision 1 to the Permittee listed below.

Permittee:	**Eni US Operating Co. Inc.** 1201 Louisiana, Suite 3500 Houston, TX 77002 (713) 393-6100
Owner:	Same as Permittee
Operator:	Same as Permittee
Stationary Source:	**Nikaitchuq Development Phase 1**
Location:	UTM Zone 6; Northing 7,824,972m; Easting 393,434m (NAD27)
Physical Address:	Oliktok Point
Permit Contact:	David Dougall, (713) 393-6122

This project is classified under 18 AAC 50.502(c)(1) since the potential nitrogen dioxide and sulfur dioxide emissions exceed 40 tons per year, and 18 AAC 50.502(c)(2)(A) because the project includes a portable oil and gas operation. This project is further classified under 18 AAC 50.508(5) since the Permittee is requesting limits to avoid classification as a major stationary source for carbon monoxide and nitrogen oxides under the Prevention of Significant Deterioration program. This permit satisfies the obligation of the Permittee to obtain a minor permit under these provisions. As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this minor permit. In Appendix B of this permit, references to 'Kerr McGee Oil and Gas Corporation' mean 'Eni US Operating Co. Inc.'

John F. Kuterbach
Manager, Air Permits Program

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Abbreviations/Acronyms

AAC .....Alaska Administrative Code
ADEC .....Alaska Department of Environmental Conservation
AS .....Alaska Statutes
ASTM .....American Society of Testing and Materials
C.F.R. .....Code of Federal Regulations
EPA .....Environmental Protection Agency
HHV .....Higher heating value
NA .....Not Applicable
NAICS .....North American Industry Classification System
PS .....Performance specification
PSD .....Prevention of Significant Deterioration
PTE .....Potential to Emit
RM .....Reference Method
SIC .....Standard Industrial Classification
SN .....Serial Number
TBD .....To Be Determined

Units and Measures

bbl .....barrels
bhp .....brake horsepower[1]
gr./dscf .....grains per dry standard cubic feet (1 pound = 7,000 grains)
dscf .....dry standard cubic foot
gph .....gallons per hour
kW .....kiloWatts
kW-e .....kilowatts electric[2]
MMBtu .....million British Thermal Units[3]
MW-e .....megawatts electric
ppm .....parts per million
ppmv .....parts per million by volume
tph .....tons per hour
tpy .....tons per year
wt% .....weight percent

Pollutants

CO .....Carbon Monoxide
HAPS .....Hazardous Air Pollutants
H_2S .....Hydrogen Sulfide
NO_X .....Oxides of Nitrogen
NO_2 .....Nitrogen Dioxide
NO .....Nitric Oxide
PM-10 .....Particulate Matter with an aerodynamic diameter less than 10 microns
SO_2 .....Sulfur Dioxide
VOC .....Volatile Organic Compound

[1] For engines: approximately 7,000 Btu-fuel per brake horsepower-hour is required for an average diesel internal combustion engine.
[2] "electric" refers to the rated generator electrical output rather than the engine/turbine rated output
[3] For purposes of this permit, all boiler and heater ratings are in heat input.

Section 1 Emission Unit Inventory

1. **Authorization.** The Permittee is authorized to install and operate the emission units listed in Table 1 in accordance with the terms and conditions of this permit and the minor permit application. For purposes of this permit, the emission units listed in Table 1 are collectively referred as "Permanent Emission Units."

Table 1 – Permanent Emission Units [a]

Emission Unit ID	Unit Description	Make/Model	Fuel Type	Rating/size	Installation Date
Combustion Units					
1	Gas Turbine [b]	Solar Taurus 60	Gas	6.03 MW-e	TBD
2	Gas Turbine [b]	Solar Taurus 60	Gas	6.03 MW-e	TBD
3	Reciprocating Engine	Cat 3512B	Diesel	1.25 MW-e[c]	TBD
4	Process Safety Flare (with two tips)	Unknown	Gas	[d]	TBD
Storage Tanks					
5	Off-Spec Crude Oil Tank #1[e]	TBD	NA	750 bbl	TBD
6	Off-Spec Crude Oil Tank #2[e]	TBD	NA	750 bbl	TBD
7	Diesel Storage Tank	TBD	NA	750 bbl	TBD
8	Methanol Tank	TBD	NA	50 bbl	TBD

Table 1 Footnotes:

[a] Except as noted elsewhere in this permit, the information in this table is for identification purposes only.

[b] The Permittee may install Waste Heat Recovery Units (WHRU) on both Gas Turbines (Emission Units 1 and 2) to provide process and space heat. The WHRUs may *not* include supplemental burners.

[c] Unit 3 will power a 1.25MW electrical generator. The equivalent horsepower rating (at the generator output) is 1,676. Therefore, the brake-horsepower of the engine will be slightly larger than 1,676.

[d] The process safety flare is rated at:
0.25 MMscf/day (pilot and purge operation)
15 MMscf/day (low pressure emergency operation)
50 MMscf/day (high pressure emergency operation)

[e] The Permittee may not use Units 5 and 6 (Off-Spec Crude Oil Tank #1 and #2) for routine flow-through of sales-quality crude oil.

2. The Permittee is authorized to operate a Drilling Rig in accordance with the terms and conditions of this permit and the minor permit application.

2.1 For purposes of this permit, the emission units represented as Emission Units 9 through 18 in Table 2 are collectively referred as the "Drilling Rig."

2.2 The actual Drilling Rig operated under this permit may be similar or smaller than the Drilling Rig represented in Table 2. In all situations, the cumulative boiler/heater rating may not exceed 19.3 MMBtu/hr and the cumulative engine rating may not exceed 4,730 bhp.

Table 2 – Example Drilling Rig Emission Units [a]

Emission Unit ID	Unit Description	Make/Model	Rating/size
Drilling Rig (Nabors 245E) [b]			
9	Rig Boiler	Cleaver Brooks CB100-100	4.2 MMBtu/hr
10	Rig Boiler	Cleaver Brooks CB100-100	4.2 MMBtu/hr
11	Air Heater	Tioga 1DF-21B0	4.2 MMBtu/hr
12	Air Heater	Tioga 1DF-21B0	4.2 MMBtu/hr
13	Air Heater	Tioga 1DF-11C0	2.5 MMBtu/hr
14	Rig Engine	Caterpillar D399	1,125 bhp
15	Rig Engine	Caterpillar D399	1,125 bhp
16	Rig Engine	Caterpillar D399	1,125 bhp
17	Rig Engine	Caterpillar D399	1,125 bhp
18	Generator Motor	Caterpillar D353	230 bhp

Table 2 Footnotes:
[a] All of the fuel burning units listed in Table 2 are diesel-fired.
[b] While the Permittee anticipates use of the Nabors 245E rig, the actual Drilling rig may be similar or smaller than the Nabors 245E (i.e., the selected Drilling Rig may have fewer and/or smaller emission units).

3. The Permittee is also authorized to periodically operate intermittent well servicing equipment in accordance with the terms and conditions of this permit and the minor permit application.[4] The intermittent well servicing equipment includes the emission units listed in Table 3.

3.1 For purposes of this permit, the emission units represented as Emission Units 26 through 33 in Table 3 are collectively known as the "Workover Rig."

3.2 The actual Workover Rigs operated under this permit may be similar or smaller than the Workover Rig represented in Table 3. In all situations, the cumulative

[4] In all cases, intermittent well servicing equipment must be portable, and must only be operated on a periodic and temporary basis, in a manner analogous with the non-road engine rule, adopted by reference in 18 AAC 50.100.

boiler/heater rating may not exceed 9.6 MMBtu/hr and the cumulative engine rating may not exceed 4,350 bhp.

Table 3 – Partial List of Intermittent Well Servicing Equipment [a]

Emission Unit ID	Unit Description	Rating/size
19	500 Ton Crane	575 bhp
20	300 Ton Crane	450 bhp
21	Frac Unit Engines	8,000 bhp[b]
Workover Rig (Nordic Rig #3) [c]		
26	Workover Rig Engine #1	1,450 bhp
27	Workover Rig Engine #2	1,450 bhp
28	Workover Rig Engine #3	1,450 bhp
29	Workover Rig Boiler #1	2.7 MMBtu/hr
30	Workover Rig Boiler #2	2.7 MMBtu/hr
31	Workover Rig Heater	4.2 MMBtu/hr

Table 3 Footnotes:

[a] Except as noted elsewhere in this permit, the information in this table is for identification purposes only. All of the fuel burning units listed in Table 3 are diesel-fired.

[b] The cumulative capacity of the Frac Unit Engines is 8,000 bhp. The engine ratings of the individual units will be smaller.

[c] While the Permittee based their application on the Nordic Rig #3, the actual Workover Rigs may be similar or smaller than the Nordic Rig #3 (i.e., the selected Workover Rigs may have fewer and/or smaller emission units).

4. Label each emission unit listed in Table 1 with the Emission Unit ID within 30 days of installing the emission unit. Place the ID in a conspicuous location on or adjacent to the unit.

5. For each combustion unit listed in Table 1 (Emission Unit 1 through 4), submit to the Department's Fairbanks Office the following information within 30 days of installing the emission unit:

   5.1 actual installation date;

   5.2 serial number, model number; and

   5.3 vendor specification sheet.

6. For Emission Units 1 and 2:

   6.1 submit to the Department's Fairbanks Office the emission and fuel control settings (as provided by the vendor) within 30 days of installing each emission unit. If subsequent changes to the emission and fuel control settings are later deemed necessary, provide the revised settings and the reason for the revision in the operating report submitted under Condition 23 for that operating period.

6.2 construct the stacks with:

a. sampling ports that comport with 40 CFR 60, Appendix A, Method 1, Section 2.1, and stack or duct *free of cyclonic flow* at the port location during the applicable test methods and procedures,

b. safe access to sampling ports, and

c. utilities for emission sampling and testing equipment.

7. For Emission Unit 3, submit to the Department's Fairbanks Office the emission and fuel control settngs (as provided by the vendor) within 30 days of installing the emission unit. If subsequent changes to the emission and fuel control settings are later deemed necessary, provide the revised settings and the reason for the revision in the operating report submitted under Condition 23 for that operating period.

8. Prior to the start of production well drilling, submit to the Department's Fairbanks Office:

8.1 the name of the selected Drilling Rig (e.g., Nabors 245E);

8.2 an emission unit inventory listing each combustion unit in the Drilling Rig, along with the make/model and rating of each combustion unit;

8.3 the cumulative capacity of the Drilling Rig engines;

8.4 the cumulative capacity of the Drilling Rig boilers/heaters; and

8.5 a statement as to whether the selected Drilling Rig complies with Condition 2.2.

Section 2 State Emission Standards

9. **Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding water vapor, emitted from all fuel burning units to reduce visibility through the exhaust effluent by any of the following:

    a. more than 20 percent for greater than three minutes in any one hour;[5]

    b. more than 20 percent averaged over any six consecutive minutes.[6]

9.1 Verify the initial compliance of Emission Units 3 and 4, by either

    a. obtaining a certified manufacturer guarantee that the emission unit will comply with the visible emission standard; or

    b. conducting a Method 9 visible emission source test within 90 days of unit installation.

9.2 For each emission unit listed in Condition 9.1, attach a copy of the guarantee obtained under Condition 9.1a, or a copy of the survellance records developed under Conditions 9.1b, as applicable, to the operating report submitted under Condition 23 for the period that covers the 90th day after unit installation.

9.3 Conduct all visible emission source tests in a manner consistent with Condition 25.

[5] For purposes of this permit, the more than "three minutes in any one hour" criterion in this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA.

[6] The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated 5/3/02, is approved by EPA and adopted into the SIP. At that time, this standard becomes federally enforceable.

Section 3 Requirements to Avoid PSD Classification

10. **CO Limits:**

10.1 To avoid classification as a PSD major stationary source, the Permittee shall limit the CO emissions from Emission Units 1 through 4 and 9 through 13 to no greater than 225 tons per 12 month rolling period.[7] Monitor and record as follows:

a. For Emission Units 1 and 2 (CO Group A):

(i) Capture the *sixty second average load* (in percent of full-load) and the *sixty second average inlet air temperature* (in degrees Fahrenheit) for each unit during all periods of operation. Record for each calendar day, the minimum *sixty second average load* (in percent of full-load) and the minimum *sixty second average inlet air temperature* (in degrees Fahrenheit). Data capture and recording may be electronic.

(ii) Except as noted below, round the *sixty second average load* up to the next highest load and round the *sixty second average inlet air temperature* down to the next lowest inlet air temperature presented in Table 5 of Appendix A. Consider all *sixty second average loads* between 40% (inclusive) and 50% (exclusive), as 40% loads. Data rounding may be electronic.

(iii) Using the method described in Condition 10.1a(iv), determine the pounds of CO emitted during the sixty-second period for the given *sixty second average load* and *sixty second average inlet air temperature*, as rounded under Condition 10.1a(ii). For each hour, sum the sixty-second emissions to determine the hourly CO emissions (in pounds). Record the hourly CO emissions. Data selection and recording may be electronic.

(iv) When calculating the CO emissions under Condition 10.1a(iii), the Permittee must use either the lb/min CO values listed in Table 5 of Appendix A, or department-approved substitute lb/min values derived from a department-approved source test. Use one of the following approaches if a parameter measured under Condition 10.1a is missing or suspect. Note which approach is used (if applicable) in the operating report submitted under Condition 23.

(A) If the *sixty second average load* is unknown or suspect, use the largest lb/min CO emissions in Table 5 (or the substitute worst-case lb/min value) for the given inlet air temperature.

[7] During the initial 12 months of operation, the Permittee shall treat the cumulative operation to date as a substitute for the 12-month rolling period.

(B) If the *sixty second average inlet air temperature* is unknown or suspect,

(1) use the largest lb/min CO emissions in Table 5 (or the substitute worst-case lb/min value) for the given load, or

(2) obtain the ambient temperature measured by the National Weather Service (NWS) at the Deadhorse Airport for each hour of missing inlet air temperature and use the NWS temperature in lieu of the inlet air temperature when calculating the pounds of CO under Condition 10.1a(iii).

(C) If the *sixty second average load* and the *sixty second average inlet air temperature* are both unknown or suspect, use 3.87 pounds (or the department-approved substitute maximum lb/min value).

(v) By the 15th of each calendar month, calculate and record the *monthly CO emissions* (in pounds) for each unit by summing the CO emissions calculated in Condition 10.1a(iii) during the previous month. Calculation and recording may be electronic.

(vi) By the 15th of each calendar month, calculate and record the *cumulative monthly CO emissions* (in pounds) for CO Group A by summing all *monthly CO emissions* calculated in Condition 10.1a(v) for the previous calendar month. Calculation and recording may be electronic.

(vii) By the 15th of each calendar month, calculate and record the *Group A twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton). Calculation and recording may be electronic.

b. For Emission Unit 3 (CO Group B):

(i) Before initial start-up of Emission Unit 3, install a dedicated engine hour meter.

(ii) Calculate and record the *monthly CO emissions* (in pounds) using one of the following two methods. Identify the selected method in the operating report submitted under Condition 23.

(A) Full Load Assumption Method

(1) For each calendar month, monitor and record the *total monthly hours of operation.*

(2) By the 15th of each calendar month, calculate the *monthly CO emissions* (in pounds) for the previous month by multiplying the *total monthly hours of operation* by 2.68 pounds of CO per hour. If the *total monthly hours of operation* is unknown or suspect, use the total hours for that month.

(B) Hourly Load Tracking Method

(1) Install a dedicated electrical load meter on the Unit 3 generator.

(2) Monitor the *average electrical power* produced (in kilowatts) for each hour of operation. Record the number of hours Unit 3 operated at that level, along with the *average electrical power*. The hours may be rounded up to the nearest whole integer, and recorded in sequential ranges of produced power. Data capture and recording may be electronic.

(3) By the 15th of each calendar month, determine the *monthly CO emissions* (in pounds) for the previous month by summing the CO emissions associated with each recorded level of power production. Calculate the CO emissions associated with each level by multiplying: the *average electrical power* (in kilowatts); the hours operated at that level during the previous month; and the CO emission factor of 2.15×10^{-3} lb/kw-hr.

(iii) By the 15th of each calendar month, calculate and record the *Group B twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

c. For Emission Unit 4 (CO Group C):

(i) Monitor and record the volume of flared gas (in standard cubic feet) on a monthly basis.

(ii) By the 15th of each calendar month, calculate and record the *monthly CO emissions* (in pounds) by multiplying the *volume of flared gas* by 0.00047 (4.7×10^{-4}) lb/scf.

(iii) By the 15th of each calendar month, calculate and record the *Group C twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

d. For Emission Units 9 thru 13 (CO Group D):

(i) Determine and record the *monthly hours of operation* for each unit using one of the following two methods. The same method does not need to be used for all units. Identify the method selected for each unit in the operating report submitted under Condition 23.

(A) Daily Operation Method

(1) For each calendar day, monitor and record whether the unit was operated.

(2) By the 15th of each calendar month, calculate the *monthly hours of operation* during the previous month by multiplying the days operated by 24 hours per day.

(B) Hourly Operation Method

(1) Monitor and record each startup and shutdown time.

(2) By the 15th of each calendar month, review the startup and shutdown times and determine the *monthly hours of operation*. Round portions of an hour up to the next whole hour or quarter hour fraction.

(ii) By the 15th of each calendar month, calculate and record the *monthly CO emissions* (in pounds) of each unit during the previous month by multiplying the unit's rating (in MMBtu/hr) by 0.043 lb/MMBtu and the *monthly hours of operation* determined under Condition 10.1d(i) for that month.

(iii) By the 15th of each calendar month, calculate and record the *cumulative monthly CO emissions* (in pounds) for CO Group D by summing the *monthly CO emissions* for Emission Units 9 through 13 during the previous calendar month.

(iv) By the 15th of each calendar month, calculate and record the *Group D twelve month rolling CO emissions* (in tons) by summing the *cumulative monthly CO emissions* calculated in Condition 10.1d(iii) during the previous twelve months and dividing the sum by 2,000 (lb/ton).

e. By the 15th of each calendar month, calculate and record the *Total Twelve Month Rolling CO Emissions* (in tons) by adding the *Group A twelve month rolling CO emissions*, the *Group B twelve month rolling CO emissions*, the *Group C twelve month rolling CO emissions*, and *the Group D twelve month rolling CO emissions*.

10.2 Report, as described in Condition 22, if the *Total Twelve Month Rolling CO Emissions* (as calculated under Condition 10.1e) exceeds 225 tons per 12 month rolling period.

10.3 In each operating report submitted under Condition 23, report

a. For each month of the reporting period

(i) The range of inlet air temperatures recorded for each turbine (Emission Unit 1 and 2) during the month, and

(ii) Any periods where the monitoring equipment / electronic algorithm required under Condition 10.1, was malfunctioning or inoperable (specify the malfunctioning/inoperable item with each period),

b. The *cumulative monthly CO* emissions for CO Group A, as calculated in Condition 10.1a(vi), for each month of the reporting period,

c. The *Group A twelve month rolling CO emissions*, as calculated in Condition 10.1a(vii), and

d. The *Total Twelve Month Rolling CO Emissions*, as calculated under Condition 10.1e, for each twelve month period covered by the operating report.

11. NOx Limits:

11.1 To avoid classification as a PSD major stationary source, the Permittee shall limit the NOx emissions from Emission Units 1 through 4 and 9 through 13 to no greater than 225 tons per 12 month rolling period.[8] Monitor and record as follows:

a. For Emission Units 1 and 2 (NOx Group A):

(i) Using the method described in Condition 11.1a(ii), determine the pounds of NOx emitted during the sixty-second period for the given *sixty second average load* and *sixty second average inlet air temperature*, as rounded under Condition 10.1a(ii). For each hour, sum the sixty-second emissions to determine the hourly NOx emissions (in pounds). Record the hourly NOx emissions. Data selection and recording may be electronic.

(ii) When calculating the NOx emissions under Condition 11.1a(i), the Permittee must use either the lb/min NOx values listed in Table 6 of Appendix A, or department-approved substitute lb/min values derived from a department-approved source test. Use one of the following approaches if a parameter measured under Condition 10.1a(i) is missing or

[8] During the initial 12 months of operation, the Permittee shall treat the cumulative operation to date as a substitute for the 12-month rolling period.

suspect. Note which approach is used (if applicable) in the operating report submitted under Condition 23.

(A) If the *sixty second average load* is unknown or suspect, use the largest lb/min NOx emissions in Table 6 (or the substitute worst-case lb/min value) for the given inlet air temperature.

(B) If the *sixty second average inlet air temperature* is unknown or suspect,

(1) use the largest lb/min NOx emissions in Table 6 (or the substitute worst-case lb/min value) for the given load, or

(2) use the NWS temperature obtained under Condition 10.1a(iv)(B)(2) in lieu of the inlet air temperature when calculating the pounds of NOx under Condition 11.1a(i).

(C) If the *sixty second average load* and the *sixty second average inlet air temperature* are both unknown or suspect, use 0.62 pounds (or the department-approved substitute value maximum lb/min value).

(iii) By the 15th of each calendar month, calculate and record the *monthly NOx emissions* (in pounds) for each unit by summing the NOx emissions calculated in Condition 11.1a(i) during the previous month. Calculation and recording may be electronic.

(iv) By the 15th of each calendar month, calculate and record the *cumulative monthly NOx emissions* (in pounds) for NOx Group A by summing all *monthly NOx emissions* calculated in Condition 11.1a(iv) for the previous calendar month. Calculation and recording may be electronic.

(v) By the 15th of each calendar month, calculate and record the *Group A twelve month rolling NOx emissions* (in tons) by summing the *cumulative monthly NOx emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton). Calculation and recording may be electronic.

b. For Emission Unit 3 (NOx Group B):

(i) Calculate and record the monthly NOx emissions (in pounds) using one of the following two methods. Identify the selected method in the operating report submitted under Condition 23.

(A) Full Load Assumption Method:

(1) For each calendar month, monitor and record the *total monthly hours of operation* (if not previously monitored and recorded under Condition 10.1b(ii)(A)(1)).

(2) By the 15th of each calendar month, calculate and record the *monthly NOx emissions* (in pounds) for the previous month by multiplying the *total monthly hours of operation*, as recorded under Condition 10.1b(ii)(A)(1), by 27.4 pounds of NOx per hour. If the *total monthly hours of operation* is unknown or suspect, use the total hours for that month.

(B) Hourly Load Tracking Method

(1) Comply with Condition 10.1b(ii)(B)(1).

(2) Comply with Condition 10.1b(ii)(B)(2).

(3) By the 15th of each calendar month, determine the *monthly NOx emissions* (in pounds) for the previous month by summing the NOx emissions associated with each recorded level of power production. Calculate the NOx emissions associated with each level by multiplying: the *average electrical power* (in kilowatts); the hours operated at that level during the previous month; and the NOx emission factor of 0.022 lb/kw-hr.

(ii) By the 15th of each calendar month, calculate and record the *Group B twelve month rolling NOx emissions* (in tons) by summing the *cumulative monthly NOx emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

c. For Emission Unit 4 (NOx Group C):

(i) By the 15th of each calendar month, calculate and record the *monthly NOx emissions* (in pounds) by multiplying the *volume of flared gas*, as recorded under Condition 10.1c(i), by 0.0000867 (8.67×10^{-5}) lb/scf.

(ii) By the 15th of each calendar month, calculate and record the *Group C twelve month rolling NOx emissions* (in tons) by summing the *cumulative monthly NOx emissions* during the previous twelve months and dividing the sum by 2,000 (lb/ton).

d. For Emission Units 9 thru 13 (NOx Group D):

(i) By the 15th of each calendar month, calculate and record the *monthly NOx emissions* (in pounds) of each unit by multiplying the unit's rating (in

MMBtu/hr) by 0.17 lb/MMBtu and the *monthly hours of operation* determined in Condition 10.1d(i).

(ii) By the 15th of each calendar month, calculate and record the *cumulative monthly NOx emissions* (in pounds) for NOx Group D by summing the *monthly NOx emissions* calculated in Condition 11.1d(i) for Emission Units 9 through 13 during the previous calendar month.

(iii) By the 15th of each calendar month, calculate and record the *Group D twelve month rolling NOx emissions* (in tons) by summing the *cumulative monthly NOx emissions* calculated in Condition 11.1d(ii) during the previous twelve months and dividing the sum by 2,000 (lb/ton).

e. By the 15th of each calendar month, calculate and record the *Total Twelve Month Rolling NOx Emissions* (in tons) by adding the *Group A twelve month rolling NOx emissions*, the *Group B twelve month rolling NOx emissions*, the *Group C twelve month rolling NOx emissions*, and *the Group D twelve month rolling NOx emissions*.

11.2 Report, as described in Condition 22, if the *Total Twelve Month Rolling NOx Emissions* (as calculated under Condition 11.1e) exceeds 225 tons per 12 month rolling period.

11.3 In each operating report submitted under Condition 23, report

a. the *cumulative monthly NOx* emissions for NOx Group A, as calculated in Condition 11.1a(iv), for each month of the reporting period,

b. the *Group A twelve month rolling NOx emissions*, as calculated in Condition 11.1a(v), and

c. the *Total Twelve Month Rolling NOx Emissions*, as calculated under Condition 11.1e, for each twelve month period covered by the operating report.

12. **Verification of Turbine Emission Factors**: Conduct a winter performance test on either Unit 1 or Unit 2 to verify the CO and NOx emission factors in Table 5 and Table 6. Use the performance test procedures described in Condition 25. For purposes of this condition, winter is defined as the period between December 1st and April 1st.

12.1 Conduct the winter performance test within the first year of starting either Unit 1 or 2 (whichever unit starts first).

12.2 Except as noted in Condition 12.3, conduct the tests at the following turbine load[9] and inlet temperature conditions:

a. Inlet temperature greater than 0°F, and 80% to 90% load;

b. Inlet temperature greater than 0°F, and load less than 50%;

c. Inlet temperature less than 0°F, and 80% to 90% load; and

d. Inlet temperature less than 0°F, and load less than 50%.

12.3 If the weather conditions do not allow for an inlet temperature of less than 0°F, substitute the following for Conditions 12.2c and 12.2d: Inlet temperature greater than 0°F, and 60 to 70% load.

12.4 In the source test report submitted under Condition 25.4, compare the average CO concentrations (in ppmv) to the ppmv values listed Table 5 and the average NOx concentrations (in ppmv) to the ppmv values listed in Table 6, for each load and inlet temperature condition tested under Condition 12.2. Propose for department approval under Condition 26, revised lb/min emission factors for the entire table if the ppmv source test results exceed the ppmv values listed in Table 5 and/or Table 6. All testing and reporting must be consistent with the following requirements.

a. Use Method 19 of 40 CFR 60, or an alternative approach approved by the Department, for converting all ppmv values into lb/min values. Describe all assumptions (including the assumed standard conditions) and provide example calculations.

b. Express all NOx concentrations as NO_2.

c. For each individual test and test condition average, report the

(i) turbine inlet temperature,

(ii) the concurrent NWS temperature recorded at Deadhorse,

(iii) the produced eletrical power and percent load,

(iv) the NOx and CO concentrations in ppmv,

(v) the percent excess oxygen in the exhaust,

(vi) the exhaust volume flow rate and exhaust temperature,

[9] Percent load is defined as the actual output divided by the maximum output that could be produced by the turbine under the given operation conditions (e.g., inlet air temperature), times 100 (to convert from a fractional to percent format).

(vii) the gas producer speed,

(viii) the equivalent NOx and CO mass emission rate (in lb/min),

(ix) whether inlet preheating was used, and

(x) whether the turbine was operating in or out of SoLoNOx mode.

d. Measure and report the heat content from a representative fuel sample.

e. Note in the source test report whether the turbine was operating under the same emission and fuel control settings provided in Condition 6.1. If not, provide the emission and fuel control settings used during the performance tests.

Section 4 Ambient Air Quality Protection Requirements

13. **General Ambient Air Quality Provisions.** Comply with the following provisions to protect the NO_2, SO_2 and PM-10 air quality standards:

13.1 **Air Quality Boundary:** Establish and maintain the ambient boundaries using the procedures described in Condition 14.

13.2 **Stack Configuration:**

a. For all fuel burning units authorized under Conditions 1, 2, and 3, construct and maintain each exhaust stack with uncapped, vertical outlets – flapper valves, or similar, are allowed for these units as long as they do not hinder the vertical momentum of the exhaust plume. Intermittent well servicing equipment rated at less than 400 bhp or 2.8 MMBtu/hr (as applicable), are exempt from this condition.

b. Construct and maintain the exhaust stack for each unit listed in Table 4 with a release height (above grade) that meets or exceeds the indicated height.

Table 4 – Minimum Stack Height Requirements

Emission Unit ID	Unit Description	Minimum Release Height Above Grade (m)
1	Gas Turbine – WHRU Stack	8.4
	Gas Turbine – WHRU Bypass	8.9
2	Gas Turbine – WHRU Stack	8.4
	Gas Turbine – WHRU Bypass	9.1
3	Reciprocating Engine	8.5
9 – 12	Drilling Rig heaters and boilers rated at or above 2.8 MMBtu/hr	14.3
14 – 17	Drilling Rig engines rated at or above 400 bhp	16.8
26 – 28	Workover Rig engines rated at or above 400 bhp	9.1
31	Workover Rig heaters and boilers rated at or above 2.8 MMBtu/hr	9.1

c. Provide as-built drawings and/or photographs of each exhaust stack subject to Conditions 13.2b in the first operating report submitted under Condition 23.

14. **Public Access Control Plan.** Establish and maintain the ambient air boundaries as follows:

14.1 Comply with the provisions contained in the October 26, 2005 "Nikaitchuq Production Pad – Public Access Control Plan" (as provided in Appendix B), or a subsequent written version approved by the Department that contains at least the following elements:

a. a scaled map that clearly shows the ambient air boundaries, coast line, spill response boat ramp, Kuparuk Seawater Treatment Plant, Oliktok Road, and warning sign locations;

b. ambient boundaries that are consistent with the land owner's authorization to preclude public access from the area within the boundaries;

c. defined methods of establishing and maintaining the boundary, such as surveillance and posting of strategically located warning signs (provide size, wording, and inspection/repair schedule);

d. the date of the Public Access Control Plan; and

e. the procedure for approaching unauthorized people who have crossed the ambient air boundary.

14.2 Post and maintain all warning signs described in the Public Access Control Plan as follows:

a. post all signs as stated in the Public Access Control Plan;

b. use a font, font size and contrast coloring that makes all lettering easy to read;

c. inspect and repair the signs according to the schedule described in the Public Access Control Plan; and

d. keep all signs free of nearby visibile obstructions (including wind-blown snow).

15. **NO_2 Ambient Air Quality Protection:** Protect the NO_2 ambient air quality standard by:

15.1 Limiting the operation of Emission Unit 3 to 500 hours per consecutive twelve month period

a. By the 15th of each calendar month, record the cumulative hours of operation during the previous twelve months by summing the *total monthly hours of operation* recorded under Condition 10.1b(ii)(A). During the intial twelve months of operation, use the operating period to date as a substitute for the twelve month period.

b. Report the hours recorded under Conditions 10.1b(ii)(A) and 15.1a in the operating report required under Condition 23, for each month covered by the reporting period.

15.2 Limiting the operation of the Workover Rig to 55 days per consecutive twelve month period

a. For each calendar month in which the Workover Rig is on site, monitor and record the total days of operation during the month – days of operation includes movement between wellheads, but does not include transportation to and from the Nikaitchuq pad.

b. By the 15th of each calendar month, calculate and record the cumulative days of operation during the previous twelve months. During the intial twelve months of operation, use the operating period to date as a substitute for the twelve month period.

c. Report the days recorded under Conditions 15.2a and 15.2b in the operating report required under Condition 23, for each month covered by the reporting period.

15.3 Limiting the operation of Emission Unit 19 to 500 hours per consecutive twelve month period

a. For each calendar month, monitor and record the total hours of operation during the month.

b. By the 15th of each calendar month, calculate and record the cumulative hours of operation during the previous twelve months. During the intial twelve months of operation, use the operating period to date as a substitute for the twelve month period.

c. Report the hours recorded under Conditions 15.3a and 15.3b in the operating report required under Condition 23, for each month covered by the reporting period.

15.4 Limiting the operation of Emission Unit 20 to 1,500 hours per consecutive twelve month period

a. For each calendar month, monitor and record the total hours of operation during the month.

b. By the 15th of each calendar month, calculate and record the cumulative hours of operation during the previous twelve months. During the intial twelve months of operation, use the operating period to date as a substitute for the twelve month period.

c. Report the hours recorded under Conditions 15.4a and 15.4b with the operating report required under Condition 23.

15.5 Limiting the operation of Emission Unit 21 (Frac Unit Engines) to 4,000,000 brake horsepower-hour (bhp-hr) per consecutive twelve month period

a. For purposes of Condition 15.5, the bhp-hr of an engine operating as Emission Unit 21 is defined as the maximum rated bhp of the engine multiplied by the hours the engine operated during the given period.

b. For each calendar month, monitor and record the total hours of operation of each engine operating as Emission Unit 21 during the month.

c. By the 15th of each calendar month, calculate and record the *monthly bhp-hr* for each engine operating as Emission Unit 21 during the previous month, using the total hours of operation recorded under Condition 15.5b.

d. By the 15th of each calendar month, calculate and record the *total monthly bhp-hr* for Emission Unit 21 during the previous month, by summing the *monthly bhp-hr* (as calculated under Condition 15.5c) for *all* engines operating as Emission Unit 21 during the previous month.

e. By the 15th of each calendar month, calculate and record the *cumulative 12-month bhp-hr*, by summing the *total monthly bhp-hr* (as calculated under Condition 15.5d) for the previous twelve months. During the intial twelve months of operation, use the operating period to date as a substitute for the twelve month period.

f. Report the *cumulative 12-month bhp-hr* (recorded under Condition 15.5e) in the operating report required under Condition 23, for each month covered in the reporting period.

16. **SO_2 Ambient Air Quality Protection:** Protect the SO_2 ambient air quality standard as follows:

16.1 For Emission Units 1, 2 and 4, burn only natural gas with a hydrogen sulfide content that does not exceed 250 ppmv (on an instantaneous basis at standard conditions).

a. Monitor compliance monthly using ASTM D 4810-88, D 4913-89, or Gas Producers Association 2377-86, or an alternative analytical method approved by the Department.

b. Keep records of the monitoring conducted under Condition 16.1a for five years. The records may be kept in electronic format.

c. Report the results of the monitoring conducted under Condition 16.1a during the applicable reporting period, in the operating report submitted under Condition 23.

16.2 Except as noted below, do not operate any intermittent well servicing equipment concurrently with the Drilling Rig. The exceptions (which may be operated at any time) include:

a. Emission Units 19, 20 and 21; and

b. Intermittent well servicing equipment with a rating smaller than:

(i) 400 bhp for internal combustion engines, and

(ii) 2.8 MMBtu/hr for boilers and heaters.

16.3 Except for the emission units described in Condition 16.2a and 16.2b, do not operate any intermittent well servicing equipment concurrently with the Workover Rig.

Section 5 Miscellaneous

17. **Assessable Emissions.**

17.1 The Permittee shall pay to the Department annual emission fees based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of:

a. the stationary source's assessable potential to emit of 1,287 tpy; or

b. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by:

(i) an enforceable test method described in 18 AAC 50.220;

(ii) material balance calculations;

(iii) emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

(iv) other methods and calculations approved by the Department.

18. **Assessable Emission Estimates.**

18.1 Emission fees will be assessed as follows:

a. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., p.o. Box 111800 Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

b. if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 17.1a.

19. **Good Air Pollution Control Practice**. Maintain and operate Emission Units 1 through 4 according to the manufacturer recommendations or the operator's operation and maintenance procedures. Keep a copy of either the manufacturer's or the operator's procedures on-site.

20. **Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

21. **Monitoring, Record Keeping, and Reporting for Air Pollution Prohibited.**

21.1 If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 22.

21.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 20.

21.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if:

a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the facility have caused or are causing a violation of Condition 20; or

b. the Department notifies the Permittee that it has found a violation of Condition 20.

21.4 The Permittee shall keep records of the following:

a. the date, time and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 20; and

d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

21.5 With each operating report under Condition 23, the Permittee shall include a brief summary report which must include the following:

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

21.6 The Permittee shall notify the Department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

22. Excess Emissions and Permit Deviation Reports.

22.1 Except as provided in Condition 20, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report:

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable.

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations:

(i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in Condition 22.1c(ii); and

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 22.1c(i).

22.2 The Permittee must report using either the form contained in Appendix C of this permit, or a department-approved substitute (electronic or hardcopy). The Permittee must provide all information called for by the form that is used.

22.3 If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

23. **Operating Reports.** Submit to the Department operating reports for the period January 1 through June 30, and July 1 through December 31, of each year.

23.1 The January 1 to June 30 operating report is due by August 15 of the reporting period year.

23.2 The July 1 to December 31 operating report is due by February 15 of the subsequent year.

23.3 The operating report must include all information required to be in operating reports by other conditions of this permit.

23.4 Submit one original and one copy for each reporting period to the Department's Fairbanks Office.

24. **Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

25. **Verification (Source) Test Requirements**: The Permittee shall conduct the verification (source) testing required or allowed by this permit as follows:

25.1 Use the applicable test methods set out in 40 CFR Part 60, Appendix A. The Permittee may propose alternative test methods if it can be shown to be of equivalent accuracy, and will ensure compliance with the applicable standards or limits. Alternative test procedures must be approved by the Department prior to the test date.

a. Nitrogen Oxides, NOx, expresses as NO_2 (ppm and lb/hr): Reference Method 7E or Method 20.

b. Carbon Monoxide, CO (ppm and lb/hr): Reference Method 10.

c. Oxygen, O_2 (percent): Reference Method 3 or 3A.

d. Stack Velocity and Volumetric Flow Rate: Reference Methods 1-4.

e. Visible Emissions: Reference Method 9.

25.2 Submit to the Department at least 30 days before the scheduled date of the tests, a complete plan for conducting the source tests. The Permittee need not submit this plan for a visible emissions source test conducted under Condition 9.1b.

25.3 Give the Department written notice of the test dates 10 days before each series.

25.4 Within 60 days after completion of the set of tests, submit the results, to the extent practical, in the format set out in *Source Test Report Outline* in Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). Include all information required under Condition 12.4, if applicable.

26. **Procedure for Revised Emission Factors**: All requests for revised emission factors must be submitted by the Permittee in writing, and will be considered as a permit modification under AS 46.14.285(a)(3).

26.1 All requests to *increase* emission factors, will be treated as a permit amendment. If approved, the Department will issue a written amendment, but will not reopen the permit for public comment.

26.2 All requests to *decrease* emission factors will be treated as an application to revise or rescind the terms and conditions of a Title I permit under 18 AAC 50.508(6).

Section 6 Permit Documentation

August 17, 2005	Application sent from Peter Addy (Kerr McGee) to Bill Walker (ADEC).
September 20, 2005	Incompleteness Finding transmitted from Bill Walker (ADEC) to Peter Addy (Kerr McGee).
October 13, 2005	Supplemental Information submitted from Peter Andy (Kerr McGee) to Bill Walker (ADEC).
January 18, 2006	Comments on Preliminary Minor Permit and Technical Analysis Report from David Johnston (Kerr McGee) to Bill Walker (ADEC). Includes supplemental clarifications received via e-mail from KerrMcGee's consultant.

Appendix A – Solar Taurus Emission Factors

Table 5 – Solar Taurus CO Emission Factors

Inlet Air Temp (F)	Load (%)																				MAX
	10		20		30		40		50		60		70		80		90		100		
	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(lb/min)
60		2.25		2.6		2.87		3.05		0.08		0.09		0.09		0.1		0.11		0.12	**3.05**
40		2.32		2.78		2.98		3.17	50	0.08	50	0.09	50	0.1	50	0.11	50	0.12	50	0.13	**3.17**
20		2.42		2.8		3.1		3.32		0.09		0.1		0.1		0.11		0.12		0.13	**3.32**
0	3240	2.5	2980	2.9	2720	3.22	2460	3.43		0.09		0.1		0.11		0.12		0.13		0.14	**3.43**
-20		2.57		3.02		3.33		3.57	100	0.19	100	0.21	100	0.23	100	0.24	100	0.27	100	0.29	**3.57**
-40		2.67		3.1		3.45		3.7	150	0.29	150	0.32	150	0.35	150	0.38	150	0.42	150	0.45	**3.70**
-60		2.78		3.25		3.62		3.87		0.31		0.34		0.37		0.4		0.43		0.47	**3.87**
MAX		**2.78**		**3.25**		**3.62**		**3.87**		**0.31**		**0.34**		**0.37**		**0.4**		**0.43**		**0.47**	**3.87**

Table 6 – Solar Taurus NOx Emission Factors

Inlet Air Temp (F)	Load (%)																				MAX
	10		20		30		40		50		60		70		80		90		100		
	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(ppmv)	(lb/min)	(lb/min)
60		0.08		0.1		0.12		0.14		0.07		0.07		0.08		0.08		0.09		0.10	0.14
40		0.08		0.1		0.13		0.15	25	0.07	25	0.08	25	0.08	25	0.09	25	0.10	25	0.11	0.15
20		0.09		0.11		0.13		0.16		0.07		0.08		0.09		0.09		0.10		0.11	0.16
0	70	0.09	70	0.11	70	0.14	70	0.16		0.08		0.08		0.09		0.10		0.11		0.12	0.16
-20		0.09		0.12		0.14		0.17	42	0.13	42	0.14	42	0.16	42	0.17	42	0.18	42	0.20	0.20
-40		0.10		0.12		0.15		0.17	120	0.39	120	0.43	120	0.46	120	0.5	120	0.55	120	0.60	0.60
-60		0.10		0.13		0.15		0.18		0.40		0.44		0.48		0.52		0.57		0.62	0.62
MAX		**0.10**		**0.13**		**0.15**		**0.18**		**0.40**		**0.44**		**0.48**		**0.52**		**0.57**		**0.62**	0.62

Appendix B – Public Access Control Plan (October 26, 2005)

Kerr McGee Oil & Gas Corporation
Nikaitchuq Production Pad - Public Access Control Plan
October 26, 2005

Purpose

This Public Access Control Plan for the Nikaitchuq Production Pad, depicted in Figure 1, is to protect the general public from health and safety hazards that could occur as a result of heavy industrial work during well drilling, work-over activities, and crude oil production on the Nikaitchuq Production Pad. Kerr McGee Oil & Gas Corporation (KMG) has established these reasonable restrictions on general public access to ensure adequate protection of public health and welfare.

KMG is committed to fully and adequately protecting the health and safety of its work force by remaining within the standards for air exposure of the Occupational Safety and Health Administration (OSHA) and, where the general public has access, the National and Alaska Ambient Air Quality Standards (AAQS). A primary purpose of this plan is to delineate the area to be protected and controlled for occupational health and safety from the area that is subject to unrestricted, general public access where the AAQS are applicable. Additionally, by limiting access to the Nikaitchuq Pad to only KMG authorized personnel, KMG will reduce the chance that a member of the general public will be injured or otherwise impacted by KMG operations.

This plan will ensure that reasonable measures are in place to accomplish reasonable restrictions on public access.

General Information

KMG is planning to construct an oil production facility and conduct production well drilling and development from the pad it is planning to construct on Oliktok Point. KMG will construct a gravel pad that will be approximately 550 feet wide by 600 feet long. Because KMG will restrict access to the to gravel pad to KMG authorized personnel for health and safety and property control reasons, the ambient air boundary is marked by the edge of the gravel production pad along with signs and reflective boundary markers that will delineate the controlled area. This is consistent with other ambient air boundary selections that have been made for similar facilities and circumstances on the North Slope. Additionally, in order to accommodate the process safety flare's required safety zone of a 170 ft radius from the flare, a gravel triangle will be constructed on the south side of the pad that will extend some portions of the gravel pad up to 170 ft. to the south.

All drilling and crude oil production and processing will be conducted on the gravel pad. Public access will be restricted at the edge of the gravel pad. The west edge of the Oliktok road that provides access to the Kuparuk Seawater Treatment Plant (KSTP) runs along the eastern edge

of the Nikaitchuq production pad. Access to the Spill Response Boat Ramp runs along the northern edge.

KMG will also establish a second boundary to ensure public safety during flaring by keeping the public a safe distance from the flare at all times. The safe distance from the flare is a semi-circle with a 170 foot radius centered on the extreme southern edge of the pad extension that contains the flare.

Public Access Control Measures

The Nikaitchuq Pad is located on Oliktok Point, which is a peninsula that is surrounded on three sides by the Beaufort Sea and is located within the Kuparuk River Unit (KRU). The KRU is controlled and operated by Conoco-Philips Alaska Incorporated (CPAI). Access to the KRU is controlled by CPAI. Access to the Nikaitchuq pad is from the south via the Oliktok Road or from the west by boat. Personnel are not allowed to travel on the KRU road system to Oliktok Point without first obtaining permission from CPAI.

Personnel traveling to the KSTP will travel on the Oliktok Rd. passing east of the Nikaitchuq pad. Personnel traveling to the KSTP will not need to cross or access the Nikaitchuq pad in order to access the KSTP. KSTP personnel will not be allowed to enter the Nikaitchuq pad without first obtaining permission from the operator of the Nikaitchuq pad. As a practical matter, few people are likely to visit or traverse the area in which Nikaitchuq development and crude oil production will be located. However, road access by personnel without permission from CPAI to be in the area is possible. As a result several measures will be implemented to reasonably ensure that unauthorized personnel do not access the Nikaitchuq pad. These measures include:

1. Signs;
2. Pad boundary markers;
3. Education and training; and
4. Pad surveillance and exclusion.

Signs

To notify unauthorized personnel that they may not access the Nikaitchuq pad, bilingual signs (in English and Inupiaq) will be posted at strategic locations, as follows:

- On the northeast, northwest, southeast, and southwest corners of the Nikaitchuq Pad; and
- At designated points of ingress and egress from the pad; two ingress and egress points are planned, both on the eastern pad edge from the Oliktok Rd.

These locations are illustrated in Figure 1.

The sign specifications are:

- Each sign will be 4 feet by 6 feet and will be supported by sawhorse or pallet post with sandbags.
- Each sign will be written in English and Inupiat.
- Each sign will be inspected regularly and will be repaired or replaced, as necessary.
- Each sign will be free of visible obstructions.
- Each sign will read:

Kerr McGee Oil & Gas Corporation
DANGER
UNAUTHORIZED PERSONNEL KEEP OUT
If access is requested,
contact the Nikaitchuq Pad Operator
Phone (907) xxx-xxxx

(The Inupiaq translation will be below the English sign restriction)

Pad Boundary Markers

In addition to the warning signs, reflective, boundary markers will be placed along the eastern production pad border between the Oliktok Rd. and the Nikaitchuq production pad. Reflective markers will also be placed along the northern edge of the Oliktok production pad separating it from the adjacent STP pad. In order to distinguish the pad boundary markers from the reflective road edge markers that are used on the North Slope, the Oliktok Pad boundary markers will be spaced at approximately fifty percent of the spacing that is normally used for road edge markers on the North Slope.

Education and Training

In order to work in or access the KRU, all personnel must have completed or be escorted by someone with eight hours of North Slope safety training. One rule that is emphasized in the training for North Slope workers is to be present only in locations where they are authorized to be. North Slope workers that are present at sites where they are not authorized are subject to discipline up to, and including termination of employment. Additionally, during their local orientation training KMG workers and KMG contractors that will be working at the Nikaitchuq pad will be made aware of this Public Access Control plan and that if they notice unauthorized personnel on the Nikaitchuq pad that they should notify appropriate personnel that an unauthorized person or persons are on the pad.

Pad Boundary Surveillance

Unless prohibited by adverse weather conditions or similar safety related circumstances, the Nikaitchuq pad boundary will be formally checked at least twice a day. During these checks of the pad boundary the inspector will check the following items:

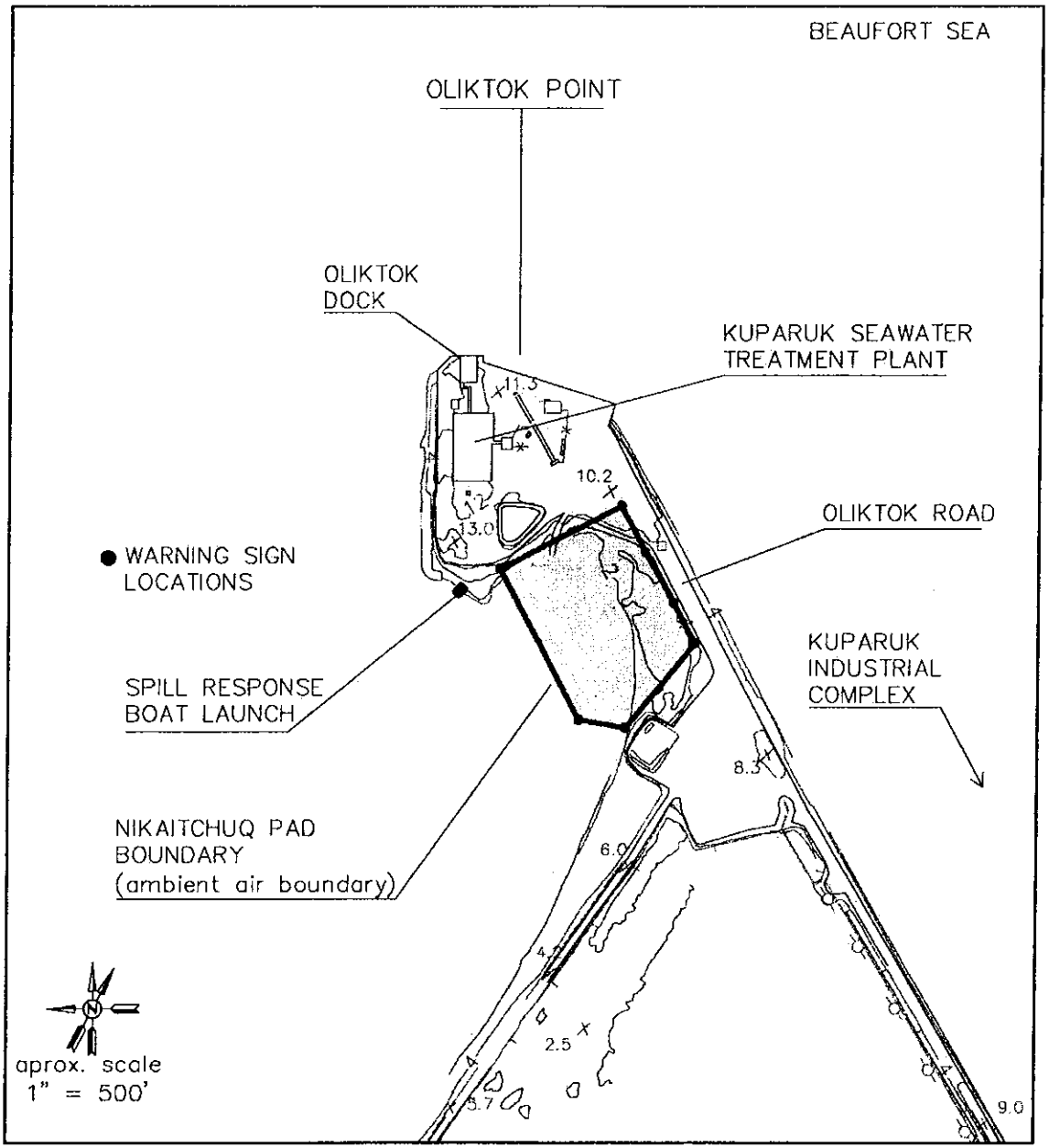
1. The presence or indications of the presence, of unauthorized personnel within the Nikaitchuq pad boundary;
2. That the pad boundary warning signs are clear of obstructions such as snow and are still standing. If possible, the inspector will fix sign problems when they are discovered; and
3. That the reflective pad boundary markers that delineate the northern and eastern pad boundaries are in place and are intact. If possible, the inspector will fix problems with the reflective pad boundary markers when they are discovered.

In addition to the formal pad inspections, all Nikaitchuq pad personnel will be responsible for maintaining Nikaitchuq pad boundary integrity. When KMG personnel or KMG contractors notice either unauthorized persons within the pad boundary or conditions that compromise the integrity of the pad boundary, they are required to either correct the situation or notify Nikaitchuq pad personnel that have the authority to remedy the situation.

Pad Boundary Violations

In the event that an unauthorized person enters the Nikaitchuq pad they will be notified by a representative of KMG that they are not allowed within the perimeter of the Nikaitchuq facility without prior approval and will be escorted off the pad by a representative of KMG. The incident will be recorded in an Unauthorized Visitors Logbook and will list the person's name (if they will provide their name), the mode of travel, and the date and time of the incident.

Figure 1. Nikaitchuq Pad Ambient Air Boundary.



Appendix C – ADEC Notification Form

ADEC NOTIFICATION FORM

Stationary Source Name _____ **Air Quality Permit Number** _____

Company Name _____

When did you discover the Excess Emissions/Permit Deviation?

Date: / / Time: :

When did the event/deviation?

Begin: Date: / / Time: : (please use 24hr clock)
End: Date: / / Time: : (please use 24hr clock)

What was the duration of the event/deviation: : (hrs:min) or days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for notification: (please check only 1 box and go to the corresponding section)
☐ Excess Emissions - Complete Section 1 and Certify
☐ Deviation from Permit Conditions - Complete Section 2 and Certify
☐ Deviation from COBC, CO, or Settlement Agreement - Complete Section 2 and Certify

Section 1: Excess Emissions

(a) Was the exceedance ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies):
☐ Start Up/Shut Down ☐ Natural Cause (weather/earthquake/flood)
☐ Control Equipment Failure ☐ Scheduled Maintenance/Equipment Adjustments
☐ Bad fuel/coal/gas ☐ Upset Condition ☐ Other

(c) Description
Describe briefly what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emission Units Involved:
Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

Unit ID	Unit Name	Permit Condition Exceeded/Limit/Potential Exceedance

(e) Type of Incident (please check only one):
☐ Opacity % ☐ Venting (gas/scf) ☐ Control Equipment Down
☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Record Keeping Failure

☐Marine Vessel Opacity ☐Failure to monitor/report ☐Flaring
☐Other:

(f) Unavoidable Emissions:
Do you intend to assert that these excess emissions were unavoidable? ☐YES ☐NO
Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐YES ☐NO

Certify Report (go to end of form)

Section 2. Permit Deviations

(a) Permit Deviation Type (check one only box, corresponding with the section in the permit)
☐Emission Unit Specific
☐General Source Test/Monitoring Requirements
☐Recordkeeping/Reporting/Compliance Certification
☐Standard Conditions Not Included in Permit
☐Generally Applicable Requirements
☐Reporting/Monitoring for Diesel Engines
☐Insignificant Emission Units
☐Stationary Source Wide
☐Other Section: (title of section and section number of your permit)

(b) Emission Unit Involved:
Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding permit condition and the deviation.

Unit ID	Unit Name	Permit Condition /Potential Deviation

(c) Description of Potential Deviation:
Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:
Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____ Title: _____ Date: _____
Signature: _____ Phone Number: _____

To Submit this Report:

Fax to: 907-451-2187;

Email to: airreports@dec.state.ak.us - *if emailed, the report must be certified within the Operating Report required for the same reporting period per Condition 24;*

Mail to: ADEC, Air Permits Program, 610 University Avenue, Fairbanks, AK 99709-3643;

Phone Notification: 907-451-5173 - p*hone notifications require a written follow-up report within the deadline listed in Condition 23; OR*

Online Submission: *(Website is not yet available) - if submitted online, the report must be certified within the Operating Report required for the same reporting period per Condition 24.*